

REMARKS

In response to the Final Office action dated March 28, 2007, Applicants respectfully request reconsideration based on the above amendment and the following remarks. Applicants respectfully submit that the claims as presented here are in condition for allowance.

Claims 1-22 are pending in the present application. Applicants cordially thank the Examiner for the indication that claims 11-22 are in condition for allowance and that claim 8 would be allowable if amended to incorporate all of the limitations of its base claim and any intervening claims.

Claims 1 and 8 have been amended. Support for the amendment to claims 1 and 8 can be found at least in original claim 8 and the FIGS., and specifically on page 9, line 13 through page 10, line 15 of the specification as originally filed. No new matter has been added with respect to the amendments. Applicants respectfully request reconsideration of claims 1-22 based on the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. §102

Claims 1-3, 5-7, 9 and 10 stand rejected under 35 U.S.C. §102(e) as being allegedly anticipated by Morita et al. (U.S. Patent No. 6,647,133, hereinafter “Morita”). The Examiner states that Morita discloses all of the elements of the abovementioned claims, primarily in FIG. 2, column 3, lines 19-29 and 38 through column 4, line 15 and column 5, lines 3-48.

Morita senses a biological signal by using impedance, while the present invention senses a biological signal using capacitance as you mentioned in your draft response.

Morita discloses a fingerprint identification device equipped with a touch sensor for detecting a human finger. (See Abstract). Morita discloses a fingerprint identification device 11 including; a prism 15, a light source 16, a lens 17, a fingerprint identification unit 12, a touch sensor 13 and an output unit 14. (See FIG. 2). Morita discloses that the touch sensor 13 includes an electrode unit 22, which further includes a pair of electrodes 21a and 21b. The electrode unit 22 also includes a pair of resistors R2 and R3 and a transformer 26 (see FIGS. 3 and 5 and column 5, lines 3-48). When a finger is not touching the area between electrodes 21a and 21b

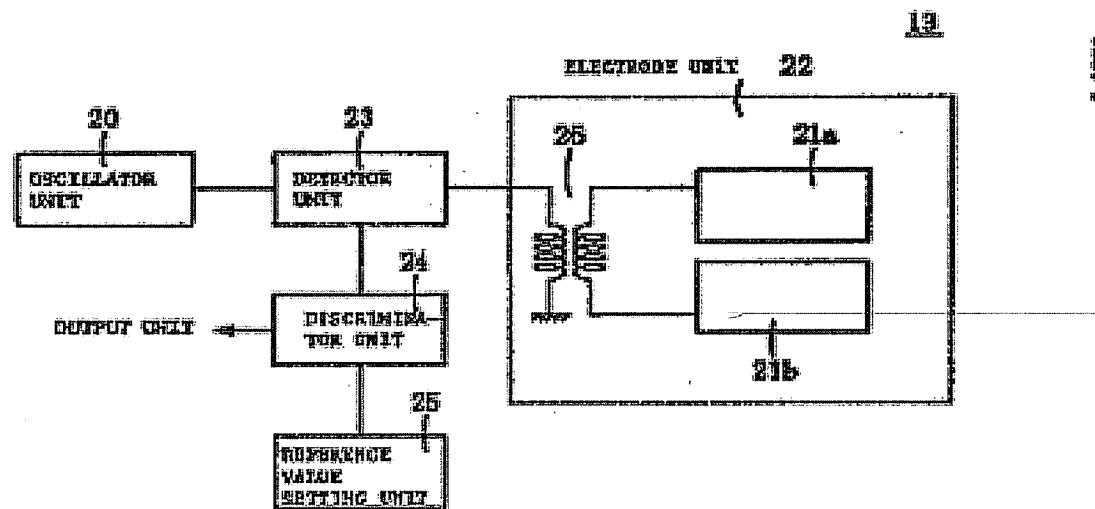
the secondary side of transformer 26 is in an open state (e.g., the electrodes 21a and 21b are not connected). When a finger connects the electrodes 21a and 21b the resistance values R2 and R3 of electrodes 21a and 21b, the capacitance values C2 and C3 between electrodes 21a and 21b and the finger, and the capacitance of the finger itself, are serially connected to the secondary coil of the transformer 26. The touch sensor 13 then compares an impedance value of the finger to a reference value. (See column 5, lines 13 through 17). The touch sensor 13 then determines the presence of a finger from the comparison.

Morita does not teach, suggest or disclose a **second recognition section disposed on the transparent substrate adjacent to the first recognition section, the second recognition section sensing a biological signal from the object by measuring a capacitance of the object so as to check whether or not the first recognition signal is obtained from a human being** as claimed in amended independent claim 1. This claim amendment merely clarifies how the capacitance is used to check whether or not the first recognition signal is obtained from a human being.

The impedance value measured by the touch sensor 13 of Morita is not a capacitance. Electrical impedance is an opposition to a sinusoidal alternating electric current, typically measured in ohms. The electrical impedance of a particular circuit may even include the impedance of its individual components including inductors, resistors and capacitors. The Examiner, on page 2 of the present Final Office action, indicates that the impedance of capacitors C2, C3 and C4 are used to determine the impedance of the touch electrode unit 22 which is then compared to a reference impedance to detect the presence of a human being. The Examiner states that therefore a capacitance is used, in a roundabout way, to determine whether or not the first recognition signal is obtained from a human being. However, the capacitance of the object is never actually measured, rather the impedance of the entire touch electrode unit 22 is compared with a reference value to determine whether a change has occurred.

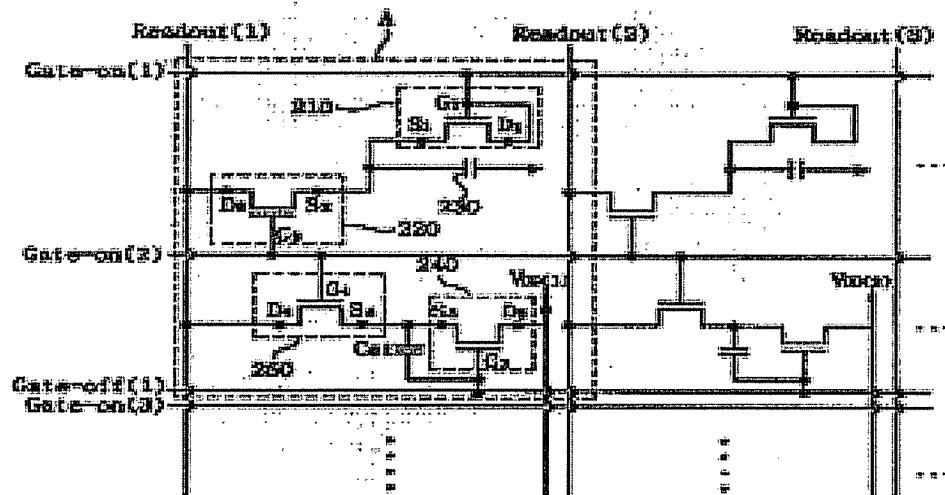
In addition, Morita does not teach or disclose "... the second recognition section having a conductive sensing electrode connected to a switching element...", which corresponds to the recited limitation of amended claim 1. The conductive sensing electrode of Morita is electrically connected to a transformer 26 as shown below.

Morita



However, according to the present invention, a conductive sensing electrode 230 is electrically connected to a switching element as shown below.

Present invention



Morita measures an impedance change induced by the change of capacitance. However, the present invention directly measures the capacitance.

Thus, claim 1 is believed to be patentably distinct and not anticipated by Morita. Claims 2, 3 and 5-10 depend directly or indirectly from claim 1, and thus include all the limitations of claim 1. It is thus believed that the dependent claims are allowable for at least the reasons given for independent claim 1, which is believed to be allowable.

Accordingly, Applicants respectfully request reconsideration and allowance of claims 1-3, 5-7, 9 and 10.

Claim Rejections Under 35 U.S.C. §103

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Morita in view of Kamiko (U.S. Patent No. 5,991,467, hereinafter “Kamiko”). The Examiner states that Morita discloses all of the elements of the abovementioned claim except, *expressly wherein the image recognition sensor comprises: a sensing TFT that outputs a voltage signal corresponding to the reflecting light reflected from the image pattern, a storage capacitor that charges an electron charge corresponding to the voltage signal input from the sensing TFT, and a switching TFT that outputs a voltage signal corresponding to the electron charge charged into the storage capacitor in response to a switching signal applied from an external*, which the Examiner further states is disclosed primarily in FIG. 1, column 4, lines 16-36, 38-63, column 7, lines 36-40, column 8, lines 27-36 and 59-62. Applicants respectfully traverse for at least the reasons set forth below.

As mentioned above for amended claim 1, Morita neither teaches nor suggests “... the second recognition section having a conductive sensing electrode connected to a switching element...,” as claimed in amended independent claim 1.

Kamiko discloses an image reading apparatus containing light receiving transistors and switching transistors. (See Abstract).

Kamiko, however, fails to cure the deficiencies of Morita, namely Kamiko does not teach, disclose or suggest "... the second recognition section having a conductive sensing electrode connected to a switching element..." as claimed in amended independent claim 1.

Thus, Applicants submit that neither Morita nor Kamiko, alone or in combination, render obvious the subject matter of claim 1. Claim 4 depends from claim 1, and thus includes the allowable elements of claim 1. It is thus believed that the dependent claims are patentable over the cited references for at least the reasons given above for independent claim 1.

Accordingly, it is respectfully submitted that the claimed invention is allowable over the cited references. The Examiner's reconsideration and withdrawal of the rejection of claim 4, and the subsequent allowance of claim 4, is respectfully requested.

Conclusion

In view of the foregoing remarks distinguishing the prior art of record, Applicants submit that this application is in condition for allowance. Early notification to this effect is requested.

The Examiner is invited to contact Applicants' Attorneys at the below-listed telephone number regarding this Amendment or otherwise regarding the present application in order to address any questions or remaining issues concerning the same.

If there are any charges due in connection with this response, please charge them to Deposit Account 06-1130.

Respectfully submitted,

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